

TITLE PAGE

The Relationship Between ADHD and Giftedness

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is a common disorder that is often identified when a child first enters school. About 2% of boys and girls in our population are diagnosed with the disorder (Kaufmann, 2000). Although ADHD is the most frequent reason that children are referred to a mental health professional, the diagnosis of ADHD becomes more difficult when other factors exist (Brown, 2000).

Despite these concerns, it has been supported that many of the characteristics of ADHD such as lack of attention and impulsivity are also common among children who are both gifted and talented. In some cases high intelligence, inappropriate curriculum, and the common behavioral characteristics of gifted children can lead to misdiagnosis. In other cases gifted and talented children with ADHD use their intelligence and strengths to mask the characteristics of ADHD.

Among the teaching and medical community the relationship between ADHD and giftedness is challenging. These groups dispute whether or not the coexistence of ADHD and giftedness exist. Despite the lack of agreement among professionals “referrals for and the incidence of attention disorders among gifted and talented children were found to be growing at an unanticipated rate” (Webb & Latimer, 1993).

Teachers and other professionals need to understand the relationship between ADHD and giftedness and to provide students with assessment tools and curriculum. This paper reviews the current research on ADHD and giftedness and identifies techniques to help teachers recognize and educate students who are classified as being both ADHD and gifted in the classroom

CHAPTER 1 INTRODUCTION

Robert is currently ten years old. In kindergarten through the beginning of third grade he attended a private school in Marin County. He liked school, but he was unable to pay attention in class and preferred to day dream. In kindergarten his teacher referred him to a private assessor and his pediatrician to be tested for attention deficit hyperactivity disorder (ADHD) as well as a possible learning disorder. The tests determined that he had attention deficit hyperactivity disorder, along with an undetermined processing disorder. In light of his test results his kindergarten teacher felt that it would be beneficial for Robert to complete another year of kindergarten. Eventually he continued on to first and then second grade. In these grades his attention and class work did not improve even when appropriate interventions were implemented and he attended resource classes twice a week. Also, his teachers modified his class work and allowed him to take “breaks” in between lessons. He used this time to daydream and build planes and other such models at his desk.

Socially, Robert did not interact with the other children and often kept to himself on the playground. The other children were willing to play with him and tried to include him in games but Robert was not interested. Instead, he chose to spend his recess time walking around the playground lost in thought.

Eventually in third grade his parents realized that the extra help that Robert was receiving was not working for him academically or socially. At the advice of their third grade teacher they decided to have him tested at a nearby gifted and talented school. Robert's tests scores revealed that he was working at an eighth grade level in math and that he was highly intelligent.

Robert's "symptoms" of ADHD had been a result of his boredom with the curriculum that he easily understood. Robert is now receiving an appropriately challenging education and he is doing wonderfully in school.

Stories such as Robert's happen every day in our school system. Gifted students are not being identified and their learning needs are not being met. Oftentimes gifted children have learning disorders that mask their intelligence or they are simply bored with the general education curriculum. Most educational or medical professionals do not know how to identify giftedness, especially if the child also has a learning disorder such as ADHD.

Purpose Statement

The purpose of this extended literature review is to educate the reader about the dual diagnosis of ADHD and giftedness and to provide ways to identify as well as educate children such as Robert. This paper presents diverse opinions and facts about the existence of ADHD and giftedness. Experts from many professions disagree about the percentages of students with ADHD and giftedness. This paper presupposes that the relationship exists and that it needs to be addressed appropriately in the school system. The goal is to offer educators and other interested parties background information, current research, as well as suitable teaching techniques to provide an appropriate education for these children.

Statement of Problem

There has been a lack of public awareness about the possibility of a child being both ADHD and gifted. As a result, children are being placed in inappropriate schools programs and taught curriculum that does not fit their needs. In response to their placement children who are both ADHD and gifted are bored in school, faced with curriculum that is not challenging, while struggling with their own unique difficulties. Educational professionals need to be educated about the possibility that children may receive a dual diagnosis.

Research Question

What is incidence of students who are both ADHD and gifted? How can we identify and educate children in elementary through high-school who are both ADHD and gifted? ADHD is defined as a, a cluster of behaviors that happen congruently. The prominent behaviors are impulsiveness, inattention, and hyperactivity (American Psychiatric Association, 1994). Giftedness is viewed and tested in various ways. In previous years, giftedness was determined only by the results of an intelligence or IQ test. In current years, teachers and other professionals have used different talents or areas of intelligence to determine giftedness (Watkins & Brines, 2007).

THEORETICAL RATIONALE

The Theory of Multiple Intelligence by Gardner in his two books *Frames of Mind: The Theory of Multiple Intelligence* (1983) and *Intelligence Reframed* (1999) form the main premise behind the questions asked in this paper. Gardner asserts that intelligence cannot be measured by an IQ score. IQ tests only gauge ability in one way using one measure. Instead, he developed criteria for nine separate intelligences that each person possesses. The following lists show the nine types of intelligence that Gardner identified in his book *Intelligence Reframed* (1999);

1. **Linguistic Intelligence**-superior verbal skills with a propensity to the rhythm, sound, and meaning of words.
2. **Logical-Mathematical Intelligence**-ability to solve problems logically and perform mathematical operations successfully.
3. **Musical Intelligence**-talent in writing and performing music. Musically intelligent people also recognize the value of music.
4. **Bodily-Kinesthetic**-one who authoritatively uses one's own body.
5. **Spatial Intelligence**—"the potential to manipulate and recognize the areas of wide space as well as confined areas" (Gardner, 1999, p.43)
6. **Interpersonal Intelligence**-the ability to understand the feelings and objectives of other people.
7. **Intrapersonal Intelligence**-the ability to recognize oneself.
8. **Naturalist Intelligence**-ability to identify with nature and its individual elements.
9. **Existential Intelligence**-relating to the supernatural.

The first seven areas of intelligence were presented in Gardner's first book, *Frames of Mind: The Theory of Multiple Intelligence* (1983). He further added the last two areas of intelligence in his most recent book, *Intelligence Reframed* (1999).

According to Gardner a person has varying degrees of strengths and weaknesses in nine different areas of intelligence. Based on this belief Gardner contests the traditional homogenous classroom curriculum that tailors to only certain intelligences. Instead his ideas support an individualized based curriculum in the classroom that

strengthens the weaker intelligences and challenges a student's strengths. (Plucker, 2003).

Gardner's hypothesis directly relates to children who are dually diagnosed. A child classifies as gifted if they are highly intelligent in math or language arts (Watkins & Brines, 2007). A child's area of strength also leaves areas for weakness. These areas of weakness are sometimes prominent in children who are gifted. Based on this definition a child can be gifted in one area and learning disabled in another area. Despite the contradiction of the two intelligences the child's academic needs should be met through an appropriate individualized curriculum.

Assumptions

The assumption of this research is that a dual diagnosis of ADHD and giftedness is probable among a number of students in the gifted community. It is presupposed that many students who have been diagnosed with ADHD are actually gifted. Among these gifted children populations of them are identified as both ADHD and gifted.

It is also assumed that the children who are both ADHD and gifted are unidentified by teachers and other professionals. This is due to a lack of knowledge about the two combined traits.

Lastly, it is presumed that educational professionals are not educated about the proper teaching techniques or placement for this population of dual diagnosed children. A criterion for identification and education is needed for general education teachers as well as other professionals working with children.

BACKGROUND AND NEED

There are numerous journal articles that support the background and need for further research into ADHD and giftedness. Currently, authors such as Kaufmann explain the characteristics of a gifted child as well as a child with ADHD. Regrettably, the distinctiveness of a child who is dual diagnosed with both ADHD and giftedness becomes ambiguous because of the lack of research on the subject. The authors also identify that there is a need for further identification techniques as well as educational strategies for children once they are identified as ADHD and gifted.

Kaufmann (2000) defines ADHD as a “syndrome,” i.e., a grouping of symptoms that typically occur together. The core symptoms are impulsiveness, inattention, and hyperactivity (American Psychiatric Association, 1994). Giftedness is defined and interpreted in many ways. In the past, giftedness was determined by a score on an IQ test. Recently, professionals have looked at different talents or areas of intelligence instead of scores on an IQ test to determine giftedness. The classification of giftedness is used for students with high academic intelligence in language or mathematics. Students with specific gifts such as in art, music or athletics are referred to as talented (Watkins & Brines, 2007).

Children who are both gifted and learning disabled exhibit remarkable talents and strengths in some areas and disabling weaknesses in others” (Baum, 1990, p. 4). Baum suggested that “Recent advances in both fields have alerted professionals to the possibility that both sets of behavior can exist simultaneously.” (p. 4)

The link between ADHD and giftedness is overlooked and under identified by teachers, physicians, psychologists and parents, because a child who is gifted and has ADHD is challenging to diagnose. The identification methods used by school professionals or physicians such as standardized tests and observational checklists are useless without modification when it comes to identifying gifted ADHD children. Standard lists of characteristics of gifted students are inadequate for revealing hidden potential of students with disabilities. More often than not, either the high intelligence of a gifted child can cause attention disorders to go undiagnosed or the behaviors associated with ADHD overshadow the giftedness (Barkley, 1990). In some cases a child is gifted and also has ADHD in other cases a child is identified as having ADHD when they are actually gifted (Bainbridge 1). The description of a child with ADHD and a gifted child who is bored are very similar.

One way to distinguish between the two is to identify the “acting out” behaviors. If the behaviors happen in specific situations then the child’s behavior is related to giftedness. On the other hand if the behavior is the same across all the situations, then the behavior is related to ADHD (Bainbridge 1). Ideally, a diagnosis of attention disorders in gifted children should be made by a multidisciplinary team that has at least one doctor trained in differentiating childhood learning and behavior disorders and one professional who understands the normal range of developmental characteristics of gifted children (Neihart, 2005).

ADHD is a new term used to depict a condition that has been around for hundreds of years. The disorder has only been researched during the last fifty to sixty years (Barkley, 1991). ADHD affects only about 2% of girls and boys in our population

(Kaufmann, 2000). Yet, some evidence suggests that children are being diagnosed at a higher rate. In fact, ADHD is the most frequent reason that children are referred to professionals for evaluation (Hartnett, Nelson, & Rinn, 2004). About two thirds of children who are diagnosed with an attention disorder have coexisting conditions along with the disorder (Neihart, 2005).

The identification of giftedness first emerged as an important issue for schools because the instruction of gifted children was a special challenge for educators. In the 20th century, gifted children were often classified by IQ tests. Recently, developments in theories of intelligence have raised questions about the uses and limits of testing. According to the U.S. Census Bureau (1995), thirteen percent of children 6 to 11 years old and 22 percent of children 12 to 17 years old were in a special class for gifted students or did advanced work in academic areas, which included honors and advanced placement classes in high-school.

Because of the relatively new research about ADHD and giftedness, the percentages of students who are both ADHD and gifted are unknown. It seems perplexing to people that a student could be learning-abled and learning disabled at the same time. Silverman (2008) wrote, “When giftedness is seen as developmental advancement or as advanced abstract reasoning ability or as asynchrony (the discrepancy between mental and chronological age), it becomes conceivable that a bright student may have difficulty reading, writing, spelling, calculation, or organizing” (p.1).

Because gifted/disabled children are difficult to identify, they are not included in standardized test norming groups and this adds to the problem of comparison (Barkley, 1990). In the early 1990s, there arose significant concern among professionals about a

lack of clear definitions of ADHD, giftedness, creativity, other behavioral characteristics (Cramond, 1994; Jordan 1992; Piechowski, 1991). Referrals from teachers and resource specialists to test gifted students with attention disorders began growing at a high rate (Webb & Latimer, 1993).

More recently, Baum and Olenchak (2002) noted, “Even if professionals were to delineate precise definitions, the absence of conclusive mechanisms for discerning exceptionalities, aside from observational data over time, is problematic for professionals as well as parents (p.78). Kaufmann (2000) pointed out that identified gifted ADHD children are more impaired than other children with ADHD, and indicate the likelihood that educators and other such professionals are not identifying gifted students with milder impulsiveness tend to lower the test scores in the same students who demonstrate the high amount of accomplishment that many schools look to as a way to identify giftedness (Neihart, 2003). Teachers also pay attention to the troublesome behavior of ADHD students and fail to see the evidence of giftedness (Neihart, 2003).

Although a link between ADHD and giftedness has been researched, some professionals do not think that a relationship exists between the two traits. Gordon (1990) believes that too many gifted students are referred for problems with hyperactivity and attention. He states that there are many reasons not discussed in ADHD literature that explain why gifted students have problems adapting to traditional schooling and may be susceptible to attention problems. Researchers have been looking into alternative reasons why gifted children have ADHD like behaviors and have developed some findings, theories and applications of old theories to explain their inattention. These theories

include the emotional development of gifted students, curriculum and pacing, and adult response to child precocity (Baum, Olenchak & Owen, 2004).

CHAPTER 2 REVIEW OF THE LITERATURE

The Review or the Literature provides a background about ADHD and giftedness as well as suggests identification and educational techniques for ADHD and gifted children. The literature is divided into six subsections 1.) ADHD or Gifted? 2.) Dual Exceptionalities, 3.) Other Perspectives, 4.) Detection and Assessment, 5.) Appropriate Intervention & Support in the Classroom and at Home, 6.) Educating Teachers and Other School Professionals. The first three subsections provide the reader with the background knowledge needed to understand ADHD and giftedness. The last four subsections present information about supporting and educating students who are dual diagnosed.

ADHD or Gifted

Teachers and other professionals have a difficult time distinguishing between ADHD and giftedness. Oftentimes children are not identified as being both ADHD and gifted because educators and other professionals are unaware that the two relationships exist.

The behaviors that are associated with giftedness (i.e. restlessness, inattention, impulsivity, activity and day-dreaming) could also be characteristics of ADHD (Webb, 1993). The following lists show how ADHD and giftedness compare to each other.

Behaviors Associated With ADHD (Barkley, 1990):

1. Poorly sustained attention in almost all situations;
2. Diminished persistence on tasks not having immediate consequences;
3. Impulsivity, poor delay of gratification;
4. Impaired adherence to commands to regulate or inhibit behavior in social contexts;
5. More active, restless than normal children; and
6. Difficulty adhering to rules and regulations.

Behaviors Associated With Giftedness (Webb, 1993):

1. Poor attention, boredom, daydreaming in specific situations;

2. Low tolerance for persistence on tasks that seem irrelevant;
3. Judgment lags behind development of intellect;
4. Intensity may lead to power struggles with authorities;
5. High activity level; may need less sleep ; and
6. Questions rules, customs and traditions.

Although the behaviors such as poor attention, lack of persistence with tasks, impulsivity, judgment, and high activity levels are similar in each list, it is important to look at the situation and setting of the behavior to determine whether a child has ADHD, is gifted, or both.

Children with ADHD display the same behaviors across all situations and settings. They exhibit the same behaviors at home, school and other outside activities. The behaviors are more controlled in some situations over others, but they still exist in some form (Webb, 2000). One feature that exists with ADHD children and not gifted children is that ADHD children are “highly inconsistent in the quality of their performance and the amount of time used to accomplish tasks” (Barkley, 1990 p.3). On the other hand, children who are gifted and do not have ADHD show a steady effort with their class work and grades when they are placed in a classroom that is academically appropriate (Webb, 2000).

Depending on the circumstances and the appropriateness of the surroundings, gifted children show ADHD traits in certain settings and not others. Neihart (2003) writes, “Common characteristics of gifted children can be misconstrued as indicators of pathology when the observer is unfamiliar with the differences in the development of gifted children. This difficulty can be exacerbated when the gifted child in question spends considerable time in a classroom where appropriate educational services are not provided” (p.2). For instance, gifted children in a general education classroom may

appear to be not paying attention when in fact, they are bored with the curriculum. It has been hypothesized that gifted children spend between one-fourth to one-half of the time in a general education classroom waiting for the other students to catch up to them (Neihart).

Gallagher and Harradine (1997) chose 800 gifted students to interview about their experience in the general education classroom. These children complained of instruction that was not fast paced enough for them, that did not place enough importance on thinking skills, and that included numerous lessons about concepts that they had already mastered. Gallagher and Harradine noted that, “It is as if we, as adults, were taken aside and asked to learn how to read Dick and Jane or to master the multiplication tables” (p. 132). A gifted child’s failure to concentrate on specific tasks is often “related to boredom, curriculum, mismatched learning style, or other environmental factors” (Webb 2000, p.3). A gifted child’s response or lack of response to various academic tasks leads to ADHD referrals and misdiagnosis (Webb).

Gifted children also have a tendency to be very intense in many situations. They are often restless with others as well as with themselves. This intensity which is prevalent among the gifted community causes “heightened motor activity and restlessness” (Beljan p. 1). These common behaviors among gifted individuals can be misconstrued as ADHD like behaviors when observed by an un-trained assessor.

Another reason that Webb (2000) believes that gifted children are being misdiagnosed with ADHD is that “...three percent of highly gifted children suffer from a functional borderline hypoglycemic condition. Children with hypoglycemic conditions become emotionally unstable and restless if they do not receive snacks throughout the

morning and afternoon" (Webb, 2000, p.1). He also suggests that the same percentage also suffer from allergies of various kinds. It is estimated that 40-60% of gifted individuals suffer from allergies. Allergies, asthma, and other such conditions occur more often in gifted individuals than those with average intelligence. A child's reactions to allergies and hypoglycemic conditions can cause inattention and restlessness which are behaviors that might look like ADHD. It is important to note that these behaviors will change throughout the day depending on the conditions (Webb, 2000).

Despite the many reasons that ADHD is being misdiagnosed, Webb strongly believes that the main reason is because of the lack of knowledge of professionals about the "social and emotional characteristics" of gifted children.

Dual Exceptionalities

Although children who are gifted can be misdiagnosed with ADHD, some research shows that a relationship between ADHD and giftedness does exist. The Diagnostic and Statistical Manual of Mental Disorders asserts that ADHD is linked with high intelligence (2005). Baum and Olenchak (2002) note, "Because giftedness is not a medical condition, the manual fails to include the impact of the "gifted condition" on the diagnosis of ADHD (p.80). Despite this Moon (2001) writes, "One of the most neglected subpopulations of gifted students with multiple exceptionalities is gifted children with Attention Deficit/Hyperactivity Disorder (AD/HD) (p.1)." Children who have a dual diagnosis of ADHD and giftedness have a harder time dealing with emotions than children with just ADHD or giftedness. Gifted children with ADHD were shown to have "difficulties with immaturity, emotionality, and struggles coping with the large gap

between their delayed social/emotional development and their advanced cognitive development" (p.1). These children also had problems relating to other children and use improper behavior to relate to their peers (Moon, 2001).

To prevent a misdiagnosis, it is very important that children who are diagnosed with ADHD are also tested for giftedness. Children with ADHD and whose giftedness is not tested will probably not receive appropriate education. Baum, Olenchak and Owen (1998) recommend "that children who fail to meet test score criteria for giftedness and are later diagnosed with ADHD be retested for the gifted program" (p.1).

The article Misdiagnosis and Dual Diagnosis of Gifted Children and Adults: ADHD, Bipolar, OCD, Aspergers, Depression, and other Disorders states that "If the educational approach is not appropriately differentiate, or if the family and work environment is not supportive, these interpersonal problems may be misrepresented and may prompt misdiagnosis." (Brody & Mills, 1997, p.1) There are three situations that might explain how a learning disability might be overlooked in a gifted individual. The following groups are; (Brody & Mills, 1997): 1.) Children who are considered gifted but are able to maintain a sense of balance enough that their learning disability is not apparent. 2.) gifted students whose learning disability is so evident that it masks their high intelligence 3.) Students whose high intelligence and learning disability cancels each other out. Unfortunately, misdiagnosis does occur among the gifted population leaving these students without the proper educational opportunities that they need to shine in our current educational system.

Other Perspectives

Many professionals believe that ADHD and giftedness do not coincide often or at all. They argue that many of the behaviors such as “intensity, sensitivity, impatience, and high motor activity” that are associated with giftedness are being misconstrued as being symptoms of ADHD (Webb, 2000, p. 3). The author writes,

Some gifted children surely do suffer from ADHD, and thus have a dual diagnosis of gifted and ADHD; but in my opinion, most are not. Few health care professionals give sufficient attention to the words about ADHD in DSM-IV (1994) that say “...inconsistent with developmental level.... The gifted child’s developmental level is different (asynchronous) when compared to other children, and health care professionals need to ask whether the child’s inattentiveness or impulsivity behavior occurs only in some situations but not in others (e.g., at school but not at home; at church, but not at scouts, etc.) If the problem behaviors are situational only, the child is likely not suffering from ADHD (p. 3). Professionals agree with Webb that many gifted children are being misdiagnosed with ADHD. Despite these concerns, there is no empirical evidence to support the idea that these children are being improperly identified (Kaufmann, 2000).

Detection and Assessment

Large populations of gifted and talented children are being misdiagnosed with ADHD and other disabilities. Professionals are making these diagnoses without considering the characteristics of a gifted child. When a child is correctly diagnosed with

a disability, giftedness should be an important factor in determining the diagnosis (Webb, 2000). However, dual diagnosis with the gifted population is difficult to determine among medical doctors, much less educational professionals. Doctors often use medication as the only source of intervention for gifted learning disabled children, leaving teachers with little knowledge of the educational strategies that can effectively educate this population of students (Baum, Olenchak & Owen 2004).

Niall, Nelson, and Rinn (2004) write, "The gifted literature suggests that there is currently little training for school personnel that would allow them to make competent decisions regarding the distinction between ADHD and giftedness "(p.3). Most general and/or special education teachers were not taught the skills to appropriately identify gifted students with ADHD. Researchers recently discovered that teachers often identified gifted learning disabled students as acting out and causing behavior problems in the classroom. "They are frequently found to be off task; they may act out, daydream, or complain of headaches and stomach aches; and they are easily frustrated and use their creative abilities to avoid tasks" (Baum & Owen, 1988, p.3). Because of the students' actions, these teachers spend their time focusing on the students' behaviors rather than their academic needs. As a result, gifted students are not identified and are placed in inappropriate educational settings where they are merely reacting to the setting in which they are bored (pp.3-5).

Students who are both extremely intelligent and learning disabled at the same time have overwhelming strengths as well weaknesses (Baum & Owen, 1988). They are initially noticed because of their weaknesses. Sometimes their difficulties are not noticed because these students learn to overcompensate for their weaknesses with their strengths.

The process of detecting a gifted student with ADHD goes beyond the general identification practices. Standardized tests, observation and checklists of the characteristics of students who are gifted are not useful in identifying giftedness within an ADHD child. Whitmore and Maker (1985) used the following example to explain why "typical" methods of identification do not work for learning disabled gifted children. "Children with learning disabilities may use high-level vocabulary in speaking but be unable to express themselves in writing, or vice versa. In addition, limited life experiences due to impaired mobility may artificially lower scores" (p. 2). Students who are both ADHD and gifted need to be compared to other gifted students in an appropriate educational setting. Checklists of their strengths and weaknesses need to be collected from various locations inside and outside of school. The results should be compared to each child's own average rather than to his/her age norm. This also applies to other tests given, such as the Weschler or the Stanford-Binet LM (Lovecky, 1999).

Appropriate Intervention and Support in the Classroom and at Home

Schools and districts have to look at ways to accommodate students with ADHD and giftedness. Programs need to be developed that provide stimulation and support for these students. The students need to be able to build on their strengths as well as their weaknesses. Because gifted learning disabled students tend to be "very disorganized, messy, and have difficult social relations" (Neihart, 2003, p.1) they will need to be taught study skills as well as social skills (Lovecky, 1999). The gifted/ADHD child is most supported when the teacher develops challenging curriculum that is based around his/her individual's strengths. The child's weaknesses must be attended to as well by using the appropriate accommodations (Neihart, 2003).

Although there is little evidence to support or refute the use of common ADHD interventions for the gifted/ADHD student, some assume that the interventions that are typically used with ADHD children may not work for children who are also gifted (Neihart, 2003). Tasks that are shortened to accommodate an ADHD child's needs are often unchallenging and frustrating for a child who is also gifted (Neihart). Professionals argue that without curriculum that challenges the high level of intelligence, an ADHD/Gifted child may "develop less ability to focus and sustain attention, poorer work habits and less advanced achievement" (Loveky, 1999). ADHD and gifted children whose academic needs are not met may become behavior problems in the classroom (Loveky, 1999).

Educating Teachers & Other School Professionals

Research about how to educate students who are both ADHD and gifted is minimal. Most researchers present various ways to help ADHD children or gifted children, but not both. Adults who work with "high-ability" children believe that behavior interventions do not work as well as medication (Baum, 2002). This could be due to the structure of the school system or the medicines ability to allow the child to "conform to a slow-paced, unchallenging curriculum" (Baum. 1998). Using medications to treat a gifted child can have detrimental consequences. Some medical professionals believe that medication can impair cognitive thinking (Niall, 2004). At the same time not diagnosing children who are gifted and have ADHD is also harmful. Niall, Nelson, and Rinn write that "ADHD is a serious medical condition that can incapacitate a person from functioning at his or her fullest potential. Effective treatment options exist, but a correct diagnosis must first be given" (p.3).

Educators and schools throughout the United States use the therapeutic model to prevent and correct problem behavior. Behavioral modification often corrects their behavior but gives no room for children to build upon their strengths. This is an indication that the schooling system is not educated about the learning needs of students who are gifted (Baum, 2002). Baum (2002) writes that “educators tend to view atypical classroom behavior among students as indicative of weaknesses and problems rather than symbolic of strengths and gifts (p. 81).

In order to educate the gifted and ADHD child, a teacher needs to identify and teach to the child’s strengths. Kaufmann notes, “Educators of gifted students with ADHD face a formidable task in that they must provide opportunities for students to apply their strengths while attending to their deficits (p. 4). Studies have found that when an unfocused and active child is taught to correspond using their strengths, mundane assignments are completed without inattention or behavior problems (Baum, 2002). The assignments and accommodations needed for an ADHD/gifted child needs to be different than for a child with just ADHD. They will need a program that serves all their strengths and weaknesses as well as being placed in advanced classes (Loveky, 1999).

CHAPTER 3: DISCUSSION OF LITERATURE

The relationship between ADHD and giftedness does exist. The number of students who actually possess ADHD and giftedness is debated among many professionals, such as Loveky and Webb. Some researchers believe as Webb that the correlation between ADHD and giftedness occurs, but very rarely among the gifted population (Webb, 2003, p.3). Others, such as Loveky (2002) believe that students who are both ADHD and gifted are not being identified and as a result are a major behavior problem in the classroom, struggling with boredom and receiving inadequate education (p.2).

Regardless, most professionals agree that the possibility of a relationship between ADHD and giftedness needs to be addressed among teachers, and other school personnel. Appropriate strategies to assess and educate this population need to be implemented by the educational system as a whole. Currently teachers and other educational professionals are rarely taught the skills to properly identify a student who is gifted, much less a student who has dual exceptionalities (Baum & Owen, 1988). Oftentimes, the students who are both gifted and have ADHD are recognized by their weaknesses, because they are bored or because they are identified as having behavior problems in the classroom. Due to these factors, students who are gifted or gifted with ADHD are being misdiagnosed (Webb, 2000). Professionals who are familiar with the gifted and their “normal” behaviors need to be part of the diagnosis, along with a team of teachers, psychologists, and other people who are familiar with the child. Students who are diagnosed with ADHD need to be tested for giftedness as well as the other tests and observation checklists to determine their status (Baum, Olenchak & Owen, 2004). After a

student has been identified as ADHD and gifted they must be placed in an appropriate educational setting that suits both their strengths and weaknesses (Loveky, 1999).

It is crucial that all teaching professionals be educated about gifted children as well as the possibility of dual diagnosis. Silverman, (2002) studied learning disorders with over 4,000 children during a 22 year span. Her results concluded that one out of every six children has a learning disorder, neurological disorder, or ADHD (Lardner, 2005). Based on these results gifted children are just as much at risk for a learning disability as the average child. The difference between a gifted child and an average child is that a gifted Childs strengths needs to be met as well as their weaknesses. A separate individualized program has to be implemented in order to educate these children on both ends of the spectrum. Currently, educators are taught very little about gifted children in their credential programs. To compensate for this school should implement a resource for teachers to refer to that provides them with the background of gifted children, identification techniques as well as an individualized curriculum.

CHAPTER 4: OTHER EXPLORATIONS

Incidence

Reviewing articles that reveal the statistical information about ADHD and giftedness provides the reader with a whole new perspective about the topic. This subject matter is hard to prove in concrete statistical terms. ADHD children have all ranges of abilities, It would be hard to make a homogeneous statement that all ADHD children are gifted or not. Based on this knowledge it is evident why the researchers disagree whether children can be both ADHD and gifted. The characteristics of ADHD children and of gifted children are so similar that it is extremely difficult to make a diagnosis. Also, currently there is not a solid medical test that can determine if a child has ADHD or not. A doctor makes a diagnosis through a qualitative survey. It is up to the medical professional to rule out other illnesses or factors and then determine if a child has ADHD. Currently about 2% of boys and girls in the United States are considered to have ADHD as determined by the current testing methods (Kaufmann, 2000). Currently, giftedness is determined by specific talents and intelligences in specific areas. Giftedness should be one of the areas that a professional reviews before he or she makes a determination of ADHD. The line between giftedness and ADHD is hard to determine. Regardless, professionals need to develop a statistical and/or qualitative way to determine a child's diagnosis.

Interview with an Expert

The interview questions used in this paper had been previously approved by the interviewee before the interview took place. This study adheres to Ethical Standards in

human Subjects Research of the American Psychological Association (Publication Manual of the American Psychological Association, 2007). Additionally, the interview questions were reviewed and approved by the Dominican University of California Institutional Review Board, IRBPHS Application, # 7010.

James is a twenty six year old accountant at a boutique hospitality company. He was identified as having ADHD without the hyperactivity in kindergarten. It was not until he attended college that his mathematical talents were identified.

In 1989 when James was diagnosed with ADHD it was a little known disorder. His parents were very worried that he would be “unlike” the other children in his school. Everyday his mother would feed him a pill in a scoop of ice-cream because he refused to take his ADHD pills on their own. The pills made him feel different than the other children and less sociable. Every day at lunch he would go to the school secretary and take a second pill before he was allowed to go back to class.

James remembers feeling unaccepted and bored in elementary school. When he tried to play with the other children they would run away from him and laugh. As a result of the he used to sit in class waiting for the bell to ring. During class time he used to rush through his assignments so that he could read a book of his choosing or play geo safari. He hardly recalls any assignments that allowed him to use his creativity or his talents. At a young age James would take apart computers and build things at home so that he could learn about them. He did not see the relevance in the things that he learned in school, so he took it upon himself to educate himself in the areas that he felt were of great importance; math, building and science. His advice to elementary school teachers who have students who are ADHD and gifted is to allow these students to develop their

intellect through unconventional ways such as building computers or doing book reports on subjects of their own interests. All assignments for these children must have some relevance to these students. It is up to the teacher to discover a child's talents and create a curriculum around their strengths. Overall, children with ADHD and giftedness want to know that someone understands them and their social and academic needs.

CHAPTER 5: DISCUSSION

Summary of Major Findings

The major findings in this paper are evident in two historical journal articles; *Gifted Children with ADHD* by Lovecky, (1999). and *Misdiagnosis and Dual Diagnosis of Gifted Children* by Webb (2000). Both articles study children who are gifted and possibly learning disabled. The authors agree that gifted means an IQ of 120 or more.

Lovecky approaches her research by studying the cognitive deficits of children who are dual diagnosed. She argues that children who are gifted and have ADHD have a harder time relating to their peers as well as they are more overwhelmed by daily tasks than other children of the same age group (p.2). Lovecky assumes through her research that students are being misdiagnosed with ADHD and/or their giftedness is being overlooked in the classroom (p.2). She does not indicate where she is receiving this information. As a researcher Lovecky can only assume this by observation and data. As a medical professional she is able to come up with models for teachers to use to educate these students in the classroom. These models are purely researched based since she is not a teacher implementing these education strategies in the classroom.

Webb indicates in his article that “Historically, nearly all of the research on gifted individuals has focused on the intellectual aspects, particularly in an academic sense (Webb, 1993). In response to the past research Webb’s article focuses on the personal characteristics of the gifted individual. He supports his research by interviewing parents of gifted children as well as reflecting on past research. Webb’s underlying assumptions are that most gifted children do not have ADHD. He believes that through his observation

allergies and hypoglycemia account for the restless behavior in gifted students (p.3).

Webb uses his own observation as well as past research to support his assumptions.

The information presented in each article is important in the sense that the author's points are substantiated by observation, interviews, and case studies. Each article provided insight into the history of gifted individuals as well as recent beliefs and findings among researchers.

Limitations of the Literature

Some limitations of the current literature should be addressed. Since the concept of dual diagnosis is fairly a new idea the literature is limited in its capacity. Children who are ADHD and gifted are difficult to identify and their numbers are unknown. Also, very few researchers are experts in dual diagnosis so varying opinions are rare.

Implications for Future Research

Further research is needed to investigate the social, emotional, and academic needs of children who are both ADHD and gifted. Effective identification techniques need to be developed for educators as well as medical professionals. Children who are correctly identified as both ADHD and gifted need to be taught with an appropriate curriculum that serves both their academic and social strengths and weaknesses. Most importantly, educators and other professionals need to understand the correlation between ADHD and giftedness as well as the future implications it has on children who are identified.

Overall Significance of the Literature Review

The significance of this literature review is to provide the reader insight into a "new," yet important topic in the education field. Gifted people have been misdiagnosed

with learning disorders for many years because their characteristics are misunderstood.

As teachers and other professionals become aware of the existence of ADHD and giftedness the correlation will be considered when testing a child. The ultimate goal is to provide an appropriate curriculum for each child who is identified as ADHD and gifted.

CHAPTER 6: ADHD AND GIFTEDNESS

Below is a quick reference guide that has been created for educators who feel that they might have a student or students in their classroom who are possibly ADHD and gifted. The purpose of this guide is to provide an educator the information they need to locate the resources to help a child who is both ADHD and Gifted. This short guide provides the reader with some background information, common behaviors of children who are ADHD and/or gifted, steps to take if an educator suspects a student is ADHD and gifted, as well as some teaching ideas for all areas of intelligence.

A Quick Guide for the Educational Professional

Background

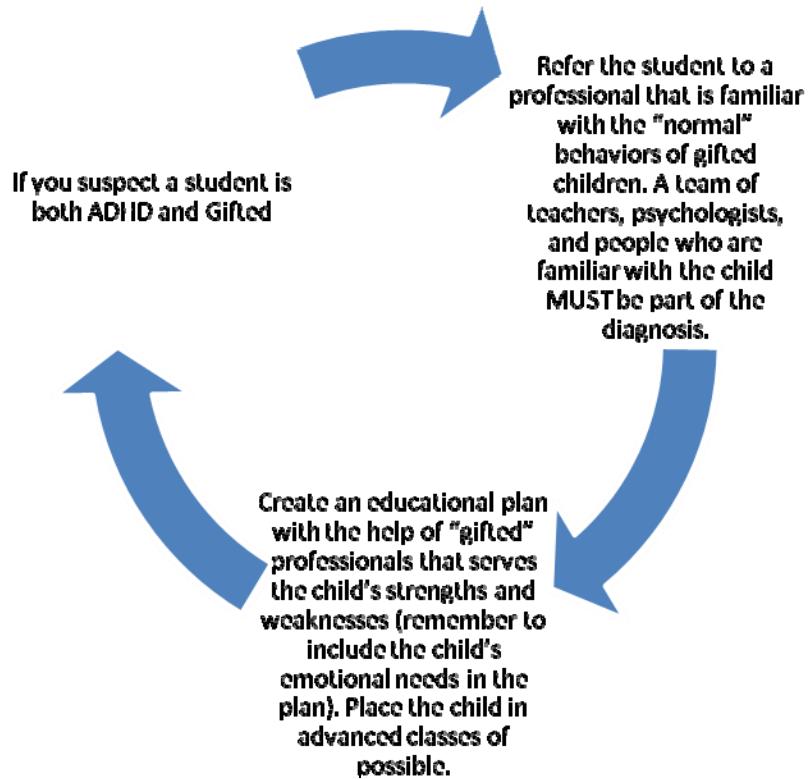
Among the teaching and medical community the relationship between ADHD and giftedness is challenging. Some researchers believe that ADHD has a direct relationship to giftedness and occurs sporadically among the gifted and talented population. Other researchers argue that the relationship between ADHD and giftedness does not exist. Despite the lack of agreement among professionals “referrals for and the incidence of attention disorders among gifted and talented children were found to be growing at an unanticipated rate” (Webb & Latimer, 1993).

Identification

Is your student exhibiting the following behaviors; restlessness, inattention, impulsivity, activity and day-dreaming?

- **ADHD CHILDREN:** Children with ADHD display the same behaviors across all situations and settings. They exhibit the same behaviors at home, school and other outside activities. The behaviors are more controlled in some situations over others, but they still exist in some form across the board (Webb)

- **GIFTED CHILDREN:** Children who are gifted and do not have ADHD show a steady effort with their class work and grades when they are placed in a classroom that is academically appropriate



Teaching Techniques For All Areas of Intelligence

Linguistic Learners: write a speech and read it to the class, participate in a debate, research the origin of the words in a story, tap the beat of poem, word, or story, have the student record their research project, story, or poem.

Logical-Mathematical Learners: provide mathematical or logic stories in Language Arts, write their own math problems based on the area being taught, provide logic or scientific activities in all subjects.

Musical Learners: Do a project or a report on important musicians or instruments, write a story based around a certain song or beat, count the notes in a song and create a math problem.

Bodily-Kinesthetic Learners: Draw imaginary letters or numbers in the air, allow student to stand up, move, or sit in places where he/she can move their bodies, assign projects that the student can build, create, or allows them to use their bodies to complete (such as scavenger hunt, ball games, or dance games)

Spatial Learners: Create pottery to represent a subject being taught, draw maps, dioramas, models, detailed charts.

Interpersonal Learners: Group projects, interviews, reports about other cultures or places, partner reading or reports.

Intrapersonal Learners: Reflective journals, “About Me” projects, self-portraits, reflective discussions

Naturalist Learners: classifying animal, people, plants, etc., nature hikes, reports, stories, and projects about nature.

Existential Learners: stories about the unknown, discussion about Religion or topics that are beyond oneself, journal entries and reflective writings.

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